



MEANDRY WSPÓŁPRACY SIECIOWEJ W EUROPIE ŚRODKOWEJ I WSCHODNIEJ

Pod redakcją Sławomira Partyckiego

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Wydawnictwo KUL
Lublin 2014

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Wydano z materiałów dostarczonych przez autorów
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ISBN 978-83-7702-874-2

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HIGH TECHNOLOGIES – THE MOST IMPORTANT FACTOR OF ECONOMIC DEVELOPMENT

At present hi-tech is used in all spheres of human activity. Their use in economy provides special changes altering the tendencies of its development in local as well as in global scale. It determines to a considerable extent the place of national economy in the world economy increasing the competitiveness and standard well-being of country.

On their basis, as a result of improving production organization, creating new types of products and service, transaction and transformation costs decrease and the possibilities of rational use of resources increase. Production organization forms and methods change and the most significant is that the place and role of a man change in production and life as well. Essence, forms and methods of social organization itself change. This is not surprising. Looking through the human history social progress, its transition to a new quality has been always connected with the introduction of new technologies in production and other spheres of human activity since technologies and ideology must correspond to each other [3].

Hi-tech is a main factor of economic development since it provides the growth and improvement of all elements of economic system.

In corresponding literature hi-tech is mainly explained as more new and advanced technologies at current stage.

We consider it necessary to make this definition more precise because despite innovative and progressive character hi-tech might not play an important role in the development of country especially in its economy, i.e. the creation of a new more advanced technologies of grain production or a new clothes model. In both cases we deal with new progressive technologies not hi-tech because the first cannot make any significant contribution in social development. Hence hi-tech might be defined as follows:

Hi-tech is more new and advanced technologies the use of which speeds up the process of society and especially its economic development .

Naturally, hi-tech, for a certain period of time (which is gradually shortening) loses its importance and gives way for new technologies.

At present electronics and especially its subsector _ microelectronics is distinguished among hi-tech branches. The development of electronics has promoted the creation of computer engineering, information measuring systems, integrated schemes, digital integrated circuits, microprocessors, resistors, condensers, diodes, transistors, radio, television, robots, computers etc. without the use of which none of economic sectors and spheres of human activity should

exist at current stage and without which a current level of work, transmission and application of information would be inconceivable.

The creation of artificial intellect i.e. machines with the features (discussion, perception movement etc.) of living organisms belong to hi-tech. Today we can talk not only about artificial intellect but about “thinking” machines having “thinking” devices like human brain. The question is artificial intellect. Thinking machine or a group of machines can approach or even exceed artificial intellect in many cases but nevertheless it will be the same instrument in human hands like cutter or any other.

Biotechnology (which in itself is based on genetics, microbiology, molecule or cell biology, biochemics, embryology etc), computer software, nanotechnologies, robotics, telecommunications, aviation-space technologies, photonics, atomic physics are considered as hi-tech branches.

Countries naturally differ from each other according to the creation and application of hi-tech. The priority belongs to developed countries and especially to European countries. In 2011 French school “Insead” published an annual report “Global index of innovation”, covering 125 countries with 93,2% of population and 98,0% of world GDP¹.

First twenty places according to the index occupy Switzerland, Sweden, Singapore, Hong-Kong, Finland, Denmark, USA, Canada, Netherlands, Great Britain, Iceland, Germany, Ireland, Israel, New Zealand, Korea, Luxemburg, Norway, Australia, Japan.

None of postcommunist countries is among these twenty countries. On comparatively advanced positions are: Estonia (23), Hungary (25), Czech Republic (27), Slovenia (30). Other post-communist countries are disposed as follows: Latvia (36), Slovakia (37), Moldova (39), Lithuania (40), Bulgaria (42), Poland (44), Romania (50), Russia (56), Ukraine (60), Macedonia (67), Mongolia (68) Armenia (69), Georgia (73), Albania (80), Kazakhstan (84), Kirgizia (85), Azerbaijan (88)².

At present the situation in Georgia has been improved in comparison with 93 place in 2007 rating. After the independence of Georgia the implementation of new technologies including hi-tech occurred though very slowly and still occurring. More significant backwardness is in the creation of new technologies and production on its own basis. Information and telecommunication technologies are the most advanced types of hi-tech at current stage. It stipulates the formation of a new structure in economy including all the spheres of economic and social activity. In connection with these processes the notions “information economy” and “network economy” are widely used in economic literature.

In the report of Euro Commission (1997) “network economy” is defined as an environment where any company or individual at any point of economic system can easily and with minimum costs contact other companies or individuals by means of electronic network to implement joint work, trade, change of ideas and “know-how” or simply enjoy themselves³.

The base of network economy are network organizations. Network products differ from ordinary ones as follows: the growth of quantity of network product use results in the growth of its utility, i.e. in case of one subscriber in telephone network his telephone utility is zero. In case of more subscribers telephone utility increases. It is notable that the more is the quantity

¹ <http://www.globalinnovationindex.org/gii/>

² <http://www.globalinnovationindex.org/gii/main/fullreport/index.html>

³ <http://www.globalinnovationindex.org/gii/main/fullreport/index.html>

of telephones in network the cheaper is their installation. So is with internet. Thus, in network economy the growth of network product volume causes the growth of its utility and the decrease of network product price. Европейские страны

The creation of conception of information society formation is conditioned by the development of complex automation and computerization, the creation of information industry, data communication networks, national and international data basis. This problem attracted attention in 70-ies of XX century and reflected in the works of Bell D. [2], Masuda E. [4], Toffler E. [6] etc .

The main point of network economy is to transform traditional economy structures into network structures by means of improving information – telecommunication environment. Network organization is a natural demand for the development of socio – economic processes. The realization of management processes is hampered by limited information provided caused by the backwardness of adequate infrastructure. This often results in the break of interrelation coordination among economic subjects creating the basis for crisis.

Network management method substantially differs from existing hierarchical and market methods.

These differences are as follows [4, 5].

- Introduction of new electronic means of communication enables to establish a diverse and multilevel connections among economic agents.
- The value of participation in network economy increases when the number of participants increases
- Network economy is characterized by small fixed costs and inessential marginal costs
- Production utility in network economy grows but the price reduces with increasing the number of participants.
- Network economy is characterized by rapid alteration ability
- For the participants of network economy it is useful to defend mutual interests
- Network economy is characterized by a great potential of selforganization and selfrenewal

We do not share the opinion that the law of decreasing utility has no place in network economy because in network economy the enlargement of service for an individual consumer (i.e. telephone network subscriber) decreases its utility (installation utility of every next telephone decreases).

Network methods of organization come from the post. To-day the innovation is not a network method itself, but the development of its application possibilities using information and telecommunication technologies.

There are market some changes for better in respect of information and telecommunication technologies use in Georgia: the development of telecommunication and corporate information systems is going on, the number of world open network subscribers is increasing, country telephonization is strengthening, the use of mobile phones growing fast etc. Information level is particularly big in the state and bank sectors, network marketing is developing and so on. But generally it must be said that the level of the development of information technologies is low in Georgia and important measures are to be realized by this side. It is natural that it won't take us as much time as in developed countries to gain the high level of information, as we are able to imitate the experience directly. But still the imitation of new technologies is impossible without the existence of the adequate basis. There must be created proper legal basis, attracted Investments, formed business culture (knowledge, the character of thinking, experience, mentality) etc.

The main thing is that network economy development requires an adequate level of economic development. For that we should aim at the introduction and use of information technologies side by side with economic development.

We have certain advantages: our country is small and its saturation with hi-tech is possible in a short time. Besides, developed countries render assistance to our country.

Recent positive changes in the institutions of our country make it possible to speed up the introduction of hi-tech.

In connection with hi-tech it should be noted that at present in developed countries "information epoch" has been finished and has begun "thinking" technosphere epoch. Technosphere is a notion describing modern civilization characterized by a wide use of technological and scientific methods to change the reality and which is the main factor of social development. At present the main role in technosphere play information – telecommunication technologies and in "thinking" technosphere the main role will play "thinking" technologies in addition to the first. "Thinking" technosphere will have much more possibilities in comparison with intellectual or "thinking" machine, as it will be the orderly unity around common artificial mentality. In such a situation will significantly be changed the conditions of people; in their usual life they will deal with thinking artificial intellectual machines able to speak on definite issues and take decisions according to situation; will thoroughly be changed the forms of production organization and state management.

Literature

1. Sichinava D., Nakashidze G. On Internet, artificial intellect and transition of human society in to a new epoch. „Economics and Business“, 2011, № 1.
2. Bell D. The social framework of the information society. In M. Dertouzas & J. Moses (Eds), Cambridge: MIT Press, 1976.
3. Лестер Туроу. Будущее Капитализма. «Сибирский хронограф», 1999
4. Masuda Y. The information society as post industrial society. Washington, DC: The Worrrld Future Society, 1988.
5. Kevin Kelly, New Rules for the new Economy, WIRED September, 1997, <http://www.wired.com/wired/0.09/newrules.html> Bradford De Long , Michael Froomkin, The Next Economy. April 1997, <http://www.law.miami.edu/~froomkin/articles/newecon.htm>
6. Тоффлер Элвин. «Третья волна»: ООО «Фирма «Издательство АСТ»; Москва; 2010.

High Technologies – the Most Important Factor of Economic Development

Summary

High technologies are more new and progressive technologies, the use of which at current stage accelerates the process of economic development of society, first of all.

High technologies is main factor of economic development because they provide the development and improvement of all elements of economic system.

After the independence of Georgia the implementation of new technologies including high technologies occurred but very slowly.

The distinct displacements are marked towards this directions by using informational and telecommunication technologies in Georgia. The development of telecommunication and corporation informational systems is going on.

The quantity of the subscribers of the world open networks is increasing, installation of telephones of the country, is strengthening the using of mobile phones is growing fast, etc. The level of informatization is Comparison big in the state and banking sector; is developing network marketing etc; but generally it must be said that the level of the development of informational technologies is low in Georgia and important measures are to be realized by this side. It is natural that it won't take us the time as it took in the developed countries, to gain the high level of information. As we are able to imitate the experience directly. But still the imitation of the new technologies in not impossible without the existence of the adequate basis. It's necessary to create the knowledge of corresponding businessculture, the character of thinking, experience, mentality, etc.

In connection with high technologies it should be noted that at present in developed countries "informational epoch" has been finished and has begun "thinking" technosphere.

At current stage the main role in technosphere plays informational-telecommunication technologies, in "thinking" technosphere in addition to the first the main role plays "thinking" technologies.

"Thinking" technosphere will have much more possibilities in comparison with intellectual or thinking machine, as it will be the regulated unity in common artificial mentality. In such a situation will significantly be changed the conditions of people; in their usual life they will thinking artificial "intellectual" machines able to speak on definite issues and to take decisions according to situation, will thoroughly be changed the forms of production organization and state management.